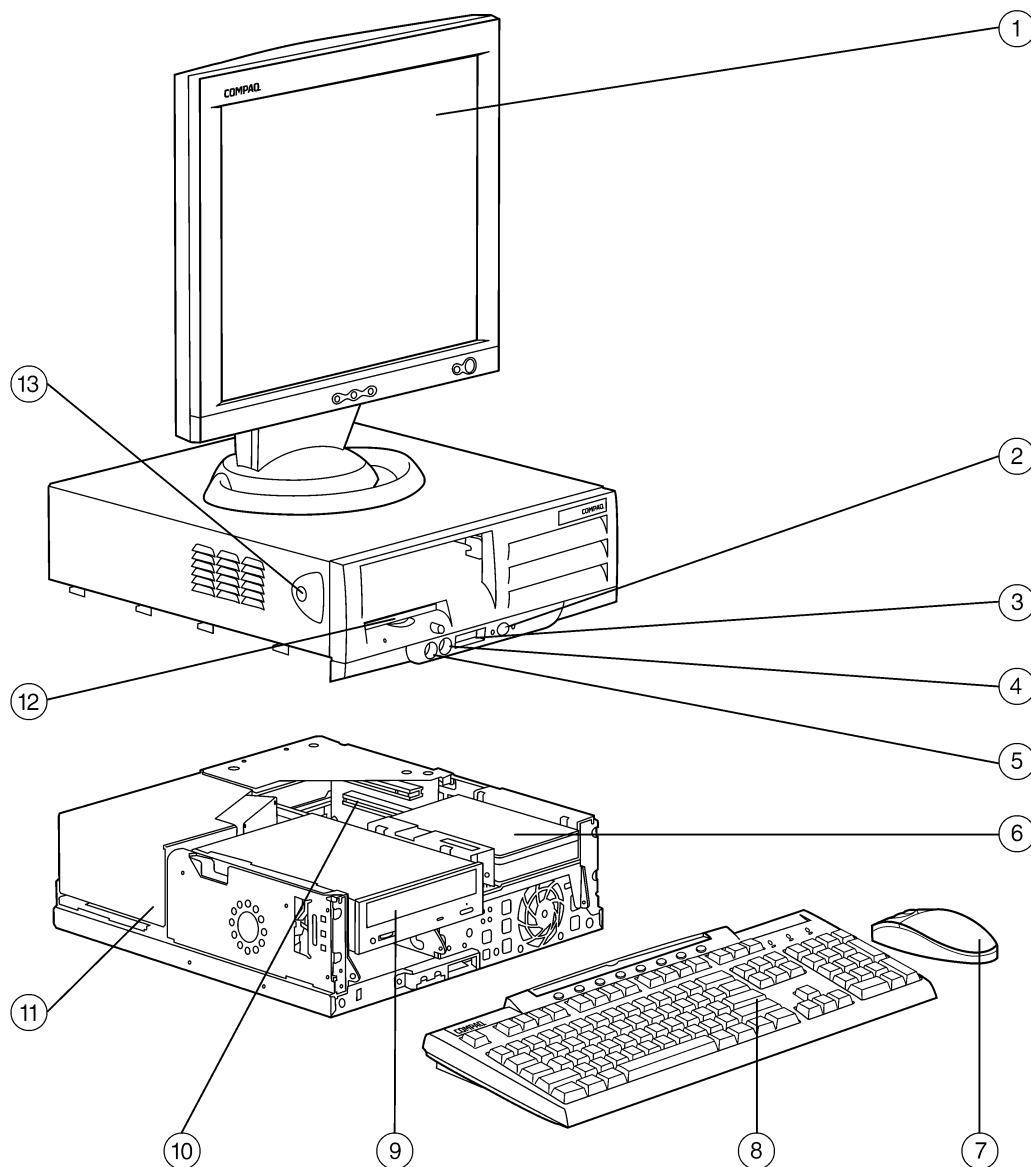


Overview

At A Glance

- Small Form Factor, convertible via tower stand
- Supports single Pentium 4 processor at speeds of 1.5 or 2.0 GHz. (400 MHz Front Side Bus)
- Intel 845 chipset with 400-MHz front side bus
- 256-KB L2 cache integrated on processor
- PC133 ECC SDRAM expandable to 1.5 GB
- High-performance, Ultra ATA 7200rpm, Ultra160 SCSI 10,000 rpm or optional 15,000 rpm hard drives
- Integrated Ultra ATA/100 controller, Ultra160 SCSI controller (on SCSI models)
- Up to 216 GB of high-performance internal storage
- Choice of NVIDIA® Quadro2 EX, Matrox Millennium G550, or Matrox G200 Quad Multi-monitor Series,
- Multiple display support
- Integrated Intel PRO/100 VM Network Connection
- Three total slots (two PCI and one low-profile AGP 4X)
- Three bays (one external, one internal, and one floppy)
- 48X Max CD-ROM Drive, DVD-ROM or CD-RW drive (depending on model)
- Two front USB ports and two front audio ports
- Integrated AC'97 audio with internal speaker
- Windows 2000 Professional or Windows NT Workstation 4.0 and Compaq support software pre-installed

Protected by Compaq Services, including a three-year, limited warranty — Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center for details. Three-year onsite and labor not available in all countries.



1. TFT Monitor (sold separately)
2. Dual-State Power Button
3. USB Connectors
4. Headphone Connector
5. Microphone Connector
6. Hard Disk Drive
7. 3-Button Mouse

8. Easy Access Keyboard
9. CD-ROM, CD-RW or DVD-ROM Drive
10. Expansion Slots
11. 145-Watt Power Supply
12. 1.44-MB Diskette Drive
13. Quick Release Cover Latch

Standard Features - Pre-configured Models

Models	Compaq Evo Workstation W4000. Available in multiple configurations Not all configurations available in all countries Check with your Authorized Compaq Reseller or Compaq	
Processor <i>One of the following:</i>	Intel Pentium 4 processor 1.5 GHz Intel Pentium 4 processor 2.0 GHz	
Cache Memory	256-KB Level 2 cache	
Upgradability	Upgradeable memory, graphics, and hard drives	
Memory <i>One of the following:</i>	Standard	512 MB PC133 ECC SDRAM
	Standard	256 MB PC133 ECC SDRAM
	Standard	128 MB PC133 ECC SDRAM
	Maximum	1.5 GB (3 slots)
Network Controller	Integrated Intel Pro/100 VM Network Connection	
Expansion Slots	I/O (Total/Available)	3/2
	PCI	2/1
	AGP 4X (low-profile)	1/1 (depending on model)
	Note: Either a PCI slot or a graphics controller will always fill the AGP slot.	
Expansion Bays	(Total/Available)	3/0
	Internal	1/0
	External	1/0
	Floppy	1/0
Storage	Diskette Drives	1.44 MB
	ROM Drives	48X Max CD-ROM Drive 16X/40X DVD-ROM Drive
	Hard Drives	72-GB, 36.4-GB, 18.2-GB Ultra160 SCSI (10,000 rpm) 18.2-GB Ultra160 SCSI (15,000 rpm) 60-GB, 40-GB or 20-GB Ultra ATA/100 (7200 rpm)
	Removable Storage	16X/10X/40X CD-RW Drive 250-MB ATAPI ZIP
Interfaces	Parallel	1 (front)
	USB	4 (2 front, 2 rear)
	Serial	2 (rear)
	Ultra 160 SCSI	2 (1 68-pin internal) (rear)
	Ultra ATA/100	2 (1 primary, 1 secondary)
	Keyboard (PS/2)	1 (rear)
	Pointing Device (PS/2 mouse)	1 (front)

Standard Features - Pre-configured Models

Interfaces <i>(continued)</i>	Parallel	1 (front)
	USB	4 (2 front, 2 rear)
	Serial	2 (rear)
	Ultra 160 SCSI	2 (1 68-pin internal) (rear)
	Ultra ATA/100	2 (1 primary, 1 secondary)
	Keyboard (PS/2)	1 (rear)
	Pointing Device (PS/2 mouse)	1 (front)
	Video	1 (front)
	Microphone Jack	1 (front)
	Headphone Jack	1 (front)
	Line-In Jack	1 (rear)
	Line-Out Jack	1 (rear)
	RJ-45	1 (rear)

Graphics <i>One of the following:</i>	Matrox Millennium G550 (AGP)
	Matrox G200 Quad Multi-monitor Series (PCI)
	NVIDIA® Quadro2 EX

Audio	Integrated AC'97 audio
	Internal Speaker

Software	Microsoft Windows NT Workstation 4.0 or Windows 2000 Professional
	Microsoft Service Pack 6 for Windows NT 4.0
	Microsoft Service Pack 2 for Windows 2000 Professional
	Compaq Restore CD
	Compaq Management Agents
	Compaq PC Diagnostics via the Web
	ROM-based Setup
	Diagnostics for Windows 2000 and Windows NT
	Microsoft Internet Explorer
	System Software Manager via the Web
	Altiris eXpress

Standard Features - Pre-configured Models

Intelligent Manageability

- Asset Control
- Alert on LAN (AoL) hardware ready
- Wake on LAN (WoL)
- Fault Management
- Lite Console
- Security Management
- Remote Management
 - Remote Wakeup via Magic Packet Support
 - Remote ROM Flash
 - Remote Security
 - Remote Shut Down
- Pre-Failure Warranty (processors, hard drives and memory)
- Bios Features
 - Advanced Configuration and Power Interface (ACPI) 1.0b
 - Advanced Power Management (APM) 1.2
 - Desktop Management Interface (DMI) 2.1
 - System Management (SM) Bios 2.3

Security

- Diskette write and boot control
- Flash ROM lock
- Keyboard password
- Network server mode
- Parallel interface control
- Power-on password
- Serial interface control
- Setup password
- Cable lock provision

Power Supply

- 145-Watt Power Supply (PFC)

Service and Support

Protected by Compaq Services including a three-year, limited warranty with three-year parts coverage, three year, on-site service, and three-year labor; 7 x 24 hardware technical phone support and on-line support through the Internet; Pre-Failure Warranty coverage of hard drives, memory, and processors..

[Note: Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center for details. Three-year, onsite and labor not available in all countries](#)

Standard Features - Pre-configured Models

W4S/2.0/18S/512S/20Qc 470023-104	Processor	Intel Pentium 4 2.0-GHz
	Cache Memory	256-KB integrated L2
	Memory	512-MB ECC PC133 SDRAM
	Optical Drive	48X Max CD-ROM Drive
	Hard Drive	18.2-GB Ultra160 SCSI 10,000 rpm
	Graphics	Matrox G200 Quad Multi-monitor Series (PCI)
	Audio	Integrated AC97 audio with internal speaker
	OS	Windows 2000 Professional/Windows NT Workstation 4.0 (dual install)
W4S/1.5/40A/512S/Xc 470023-920	Processor	Intel Pentium 4 1.5-GHz
	Cache Memory	256-KB integrated L2
	Memory	512 MB PC133 ECC SDRAM
	Optical Drive	48X Max CD-ROM Drive
	Hard Drive	40-GB Ultra ATA/100 7200 rpm
	Graphics	Choice of graphics option : NVIDIA® Quadro2 EX Matrox Millennium G550 (AGP) Matrox G200 Quad Multi-monitor Series (PCI)
	Audio	Integrated AC97 audio with internal speaker
	OS	Windows 2000 Professional/Windows NT Workstation 4.0 (dual install)

Standard Features – Custom Configuration Models

Processor	Intel Pentium 4 processor 1.5 GHz	
	Intel Pentium 4 processor 2.0 GHz	
Cache Memory	256-KB Level 2 cache standard	
Upgradability	Upgradeable memory, graphics, and hard drives	
Memory	Maximum	1.5 GB of PC133 ECC SDRAM (3 slots)
Network Controller	Integrated Intel PRO/100 VM Network Connection	
Expansion Slots	I/O (Total/Available)	3/1
	PCI	2/1
	AGP 4X (Low Profile)	1/1 (depending on model)
	Note: Either a PCI slot or the AGP slot will always be filled by a graphics controller	
Expansion Bays	(Total/Available)	3/0
	Internal	1/0
	External	1/0
	Floppy	1/0
Storage	Diskette Drives	1.44 MB
	ROM Drives	48X Max CD-ROM Drive
		16X/40X DVD-ROM Drive
	Hard Drives	72-GB, 36.4-GB, 18.2-GB Ultra160 SCSI (10,000 rpm)
		18.2-GB Ultra160 SCSI (15,000) rpm
		60-GB, 40-GB or 20-GB Ultra ATA/100 (7200 rpm)
Interfaces	Removable Storage	16X/10X/4X CD-RW Drive
		250-MB ATAPI ZIP
	Parallel	1 (front)
	USB	4 (2 front, 2 rear)
	Serial	2 (rear)
	Ultra 160 SCSI	2 (1 68-pin internal) (rear)
	Ultra ATA/100	2 (1 primary, 1 secondary)
	Keyboard (PS/2)	1 (rear)
	Pointing Device (PS/2 mouse)	1 (rear)
	Video	1 (rear)
	Microphone Jack	1 (front)
	Headphone Jack	1 (front)
	Line-In Jack	1 (rear)
	Line-Out Jack	1 (rear)
	RJ-45	1 (rear)

Standard Features – Custom Configuration Models

Graphics

One of the following:

NVIDIA® Quadro2 EX LP
Matrox Millennium G550 (AGP)
Matrox G200 Quad Multi-monitor Series (PCI)

Audio

Integrated AC'97 audio
Internal Speaker

Software

Microsoft Windows NT Workstation 4.0 or Windows 2000

Microsoft Service Pack 6 for Windows NT 4.0
Microsoft Service Pack 2 for Windows 2000 Professional
Compaq Restore CD
Compaq Management Agents
Compaq PC Diagnostics via the Web
ROM-based Setup
Diagnostics for Windows 2000 and Windows NT
Microsoft Internet Explorer
System Software Manager via the Web
Altiris eXpress

Intelligent Manageability

Asset Control
Alert on LAN (AoL) hardware ready
Wake on LAN (WoL)
Fault Management
Lite Console
Security Management
Remote Management
 Remote Wakeup via Magic Packet Support
 Remote ROM Flash
 Remote Security
 Remote Shut Down
Pre-Failure Warranty (processors, hard drives and memory)
Bios Features
 Advanced Configuration and Power Interface (ACPI) 1.0b
 Advanced Power Management (APM) 1.2
 Desktop Management Interface (DMI) 2.1
 System Management (SM) Bios 2.3

Standard Features – Custom Configuration Models

Security

Diskette write and boot control
Flash ROM lock
Keyboard password
Network server mode
Parallel interface control
Power-on password
Serial interface control
Setup password
Smart Cover Lock (optional)
Cable lock provision

Power Supply

145-Watt Power Supply (PFC)

Service and Support

Protected by Compaq Services including a three-year, limited warranty with three-year parts coverage, three-year, on-site service, and three-year labor; 7 x 24 hardware technical phone support and on-line support through the Internet; Pre-Failure Warranty coverage of hard drives, memory, and processors.
[Note: Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center for details. Three-year, onsite and labor not available in all countries.](#)

Options

Memory (SDRAM)	512-MB Memory Module (PC133 ECC SDRAM)	254873-B21
	256-MB Memory Module (PC133 ECC SDRAM)	254872-B21
	128-MB Memory Module (PC133 ECC SDRAM)	254871-B21
	<i>Note: Do not mix ECC and non-ECC memory.</i>	
Monitors	TFT8030 Flat Panel Color (18-inch, Carbon/Silver)	234362-001
	TFT5030 Flat Panel Color (15-inch, Carbon/Silver)	228134-001
	TFT5015 Flat Panel Color (15-inch, Multimedia)	234046-001
	TFT5015 Flat Panel Color (15-inch, Carbon/Silver)	234044-001
	P1210 CRT (22-inch, Carbon/Silver)	230538-001
	P910 CRT (19-inch, Carbon/Silver)	230535-001
	S920 CRT (19-inch, Carbon/Silver)	240326-xxx
	V720 CRT (17-inch, Carbon/Silver)	232944-xxx
	S720 CRT (17-inch, Carbon/Silver)	239287-xxx
	S710 CRT (17-inch, Carbon)	154499-002
	V570 CRT (15-inch, Carbon/Silver)	228113-xxx
	<i>Note: AssetControl monitor. AssetControl features are accessible with Compaq Workstations featuring Intelligent Manageability.</i>	
Graphics	Matrox G200 Quad Multi-monitor Series with cables for analog output (PCI)	159513-B21
	Matrox G200 Quad Multi-monitor Series with cables for DVI output (PCI)	179597-B21
	Matrox G200 Quad MMS DVI Upgrade Cable Kit (for option kit 159513-B21)	170840-B21
	Matrox Millennium G550 (AGP) DH AGP VGA	250227-B21
	DVI Cables for G550 VGA	251435-B21
	NVIDIA® Quadro2 EX (AGP)	250066-B21
Diskette Drives	250-MB ATAPI ZIP	294416-B22
	250-MB ATAPI ZIP Media 3-Pack	217896-B21
Tape Drives	Compaq TR5 10/20-GB IDE Tape Drive	294243-B21
Hard Drives	Ultra3 (Ultra160) SCSI Drives	
	72-GB Ultra160 SCSI 10,000 rpm (1.0")	250023-B21
	36.4-GB Ultra160 SCSI 10,000 rpm	191189-B21
	18.2-GB Ultra160 SCSI 15,000 rpm	191188-B21
	18.2-GB Ultra160 SCSI 10,000 rpm	159764-B21
	Ultra ATA Drives	
	120-GB Ultra ATA 7200 rpm Quiet Seek and Quiet Idle	250021-B21
	80-GB Ultra ATA 7200 rpm Quiet Seek and Quiet Idle	250020-B21
	60-GB Ultra ATA 7200 rpm Quiet Seek and Quiet Idle	230253-B21
	40-GB Ultra ATA 7200 rpm Quiet Seek and Quiet Idle	201066-B21
	20-GB Ultra ATA 7200 rpm Quiet Seek and Quiet Idle	251974-B21

Options

Storage Controllers	Adaptec 29160N Ultra160 Single Channel SCSI Controller	157810-B21
Biometrics	USB Biometric ID Device	240238-B21
Multimedia	48X CD-ROM	187217-B22
	16X/40X DVD-ROM	237495-B22
	16X/10X/4X CD-RW Drive	240598-B22
	4.7-GB DVD-RAM Drive	294415-B22
	4.7-GB DVD RAM (Single Sided) Media Kit	211082-B21
	Speakers	246637-001
	1394 DVE Adobe kit	229966-B21
Communications	Intel PRO/100+ Management Adapter w/ IPSecurity	212953-B21
	Intel PRO/100+ Management Adapter w/ IPSecurity 20 pack	212954-B21
	Compaq NC7131 Gigabit Server Adapter PCI, 64/66 10/100/1000-T	158575-B21
	Compaq WL215 Wireless USB	191810-B21
	V.90 PCI Modem (available World Wide)	171914-001
	Lucent V.90 56-K PCI win Modem	239137-001
Uninterruptible Power Systems	Compaq Tower UPS Model T1500 (low voltage)	242688-003
	Compaq Tower UPS Model T1000 (low voltage)	242688-001
	Compaq Tower UPS Model T700 (low voltage)	295372-B21
Other	Compaq Scroll Mouse	170299-B22
	3 Button Mouse	269192-B23
	External SCSI Adapter 68-/50-Pin	270187-B21
	Easy Access Keyboard	202109-xx8
	Sliding Shelf Kit for Rack	332564-B21
	Tower Stand	234489-B22
	Spaceball 4000 3D Motion Controller (opal)	112138-B22
	Compaq Basic Smart Card Keyboard (L2 Security)	115506-xx8
Support Software CD	Annual Subscription	183426-xxx
	Single CD-ROM (current month)	272505-001

Memory

Compaq Evo Workstation W4000 (128 MB)

STANDARD MEMORY

128-MB of PC133 ECC SDRAM is standard.

STANDARD MEMORY PLUS OPTIONAL MEMORY

Support for up to 1,152 MB of PC133 ECC SDRAM is available with the installation of optional Memory Kits.

STANDARD MEMORY REPLACED WITH OPTIONAL MEMORY

Support for up to 1.5 GB of PC133 ECC SDRAM is available with the removal of the standard 128-MB PC133 ECC SDRAM module and the installation of optional Memory Kits.

Following are memory options available from Compaq:

- | | |
|---------------------------------------|------------|
| • 512-MB Memory Kit (PC133 ECC SDRAM) | 254873-B21 |
| • 256-MB Memory Kit (PC133 ECC SDRAM) | 254872-B21 |
| • 128-MB Memory Kit (PC133 ECC SDRAM) | 254871-B21 |

Memory

Compaq Evo Workstation W4000 (256 MB)

STANDARD MEMORY

256-MB of PC133 ECC SDRAM is standard.

STANDARD MEMORY PLUS OPTIONAL MEMORY

Support for up to 1,280 MB of PC133 ECC SDRAM is available with the installation of optional Memory Kits.

STANDARD MEMORY REPLACED WITH OPTIONAL MEMORY

Support for up to 1.5 GB of PC133 ECC SDRAM is available with the removal of the standard 256-MB PC133 ECC SDRAM module and the installation of optional Memory Kits.

Following are memory options available from Compaq:

- | | |
|---------------------------------------|------------|
| • 512-MB Memory Kit (PC133 ECC SDRAM) | 254873-B21 |
| • 256-MB Memory Kit (PC133 ECC SDRAM) | 254872-B21 |
| • 128-MB Memory Kit (PC133 ECC SDRAM) | 254871-B21 |

Memory

Compaq Evo Workstation W4000 (512 MB)

STANDARD MEMORY

512 GB of PC133 ECC SDRAM is standard.

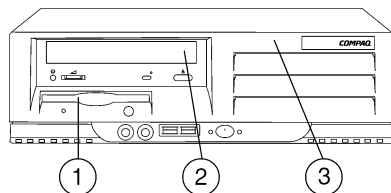
STANDARD MEMORY PLUS OPTIONAL MEMORY

Support for up to 1.5 GB of PC133 ECC SDRAM.

Following are memory options available from Compaq:

- | | |
|---------------------------------------|------------|
| • 512-MB Memory Kit (PC133 ECC SDRAM) | 254873-B21 |
| • 256-MB Memory Kit (PC133 ECC SDRAM) | 254872-B21 |
| • 128-MB Memory Kit (PC133 ECC SDRAM) | 254871-B21 |

Storage



DRIVE SUPPORT

	Quantity Supported	Position Supported	Controller
Removable Media			
1.44-MB Diskette Drive	Up to 1	1, 2, 3	Integrated
CD-ROM Drive	Up to 1	1, 2	Integrated EIDE
250-MB ATAPI ZIP Drive	Up to 1	1, 2	Integrated EIDE
DVD-ROM Drive	Up to 1	1, 2	Integrated EIDE
CD-RW Drive	Up to 1	1, 2	Integrated EIDE
4.7-GB DVD-RAM Drive	Up to 1	1, 2	Integrated EIDE
Hard Drives			
Ultra3 (Ultra 160) SCSI Drives			
1-inch	Up to 3	1, 2, 3, 4, 5	Ultra160 SCSI Controller (PCI)
72-GB 10,000 rpm			
36.4-GB 10,000 rpm			
18.2-GB 15,000 rpm			
18.2-GB 10,000 rpm			
Ultra ATA Drives			
1-inch	Up to 3	1, 2, 3, 4, 5	Integrated EIDE
60-GB 7200 rpm			
40-GB 7200 rpm			
20-GB 7200 rpm			
Maximum Storage Capacity			
Internal	216 GB (assumes two removable media drives installed)		

Technical Specifications

System Unit	Tower Dimensions (HxWxD)	3.9 x 13.1 x 14.4 in/9.9 x 33.3 x 36.6 cm		
	Weight (standard configuration)	20 lbs/9.1 kg		
	Power Supply	Operating Voltage Range	90 VAC to 264 VAC	
		Rated Voltage Range	100 VAC to 120 VAC; 200 VAC to 240 VAC	
		Rated Line Frequency	47 Hz to 63 Hz	
		Rated Input Current	3A @ 115 VAC; 1.5A @ 230 VAC	
		Maximum Rated Power	175-Watt output	
		Physical Dimensions	5.4 x 2.64 x 6.55 in/13.7 x 6.7 x 16.6 cm	
		Weight	3.15 lbs/2.05 kg	
	Temperature (Values are subject to change)	Operating	50° to 95°F/10° to 35°C	
		Non-operating	-22° to 140°F/-30° to 60°C	
	Humidity (non-condensing) (Values are subject to change)	Operating	10% to 90%	
		Non-operating	5% to 95%	
	Maximum Altitude (non-pressurized)	Operating	10,000 ft/3,048 m	
		Non-operating	30,000 ft/9,144 m	

Compaq Easy Access Keyboard	Dimensions (HxWxD)	18.3 x 6.3 x 1.4 in/46.5 x 16.0 x 3.6 mm		
	Weight	Approximately 2 lbs/0.9 kg		
	Electrical	Operating Voltage	+5VDC ± 5%	
		Power Consumption	50 mA maximum (with 3 LEDs on)	
		System Interface	PS/2 mini-din connector	
		ESD	CE level 4, 15 kV air discharge	
		EMI-RFI	Conforms to FCC rules for a Class B computing device	
		PC99	Functionally compliant	
	Mechanical	Languages	30+ available	
		Keycaps	Low-profile design	
		Switch Actuation	55 g nominal peak force with tactile feedback	
		Switch Life	20 million keystrokes (using Hasco modified tester)	
		Switch Type	Contamination resistant membrane	
		Key Leveling Mechanism	For all double wide and greater length keys	
		Cable Length	6 ft/1.8 m	
		PC98-99	Mechanically compliant	
		Acoustics	50 dBA maximum sound pressure level	
	Environmental	Operating Temperature	50° to 122° F/10° to 50° C	
		Non-operating Temperature	-22° to 140° F/-30° to 60° C	
		Operating Humidity	10% to 90% (non condensing at ambient)	
		Non-operating Humidity	20% to 80% (non condensing at ambient)	
Operating Shock		40 g, 6 surfaces		
Non-operating Shock		80 g, 6 surfaces		
Operating Vibration		2 g peak acceleration		
Non-operating Vibration		4 g peak acceleration		

Technical Specifications

1.44-MB Diskette Drive	Diskette Size	3.5 in	
	LED Indicators (front panel)	Green	
	Read/Write Capacity per Diskette (high/low)	1.44 MB/720 KB	
	Drive Height	One-third	
	Drive Rotation	300 rpm	
	Transfer Rate (high/low)	500/250 Kb/s	
	Bytes/Sector	512	
	Sectors/Track (high/low)	18/9	
	Tracks/Side (high/low)	80/80	
	Access Times	Track-to-Track (high/low)	3/6 ms
		Average (high/low)	94/173 ms
		Settling Time	15 ms
		Latency Average	100 ms
	Cylinders (high/low)	80/80	
	Read/Write Heads	Two	
Compaq 3-Button Mouse	Dimensions/Weight	Height	1.42 in/3.6 cm
		Length	4.17 in/10.7 cm
		Width	2.87 in/7.4 cm
		Weight	5.20 oz/150 g
	Environmental	Operating Temperature	32° to 104° F/0°C to 40° C
		Non-operating Temperature	−4° to 140° F/−20° to 60° C
		Operating Humidity	10% to 90% (non condensing at ambient)
	Mechanical	Resolution	400 ± 20% DPI
		Tracking Speed	10 in/s Maximum
		Tracking Mechanism Life	300 miles/483 km at average speed of 10 in/s
		Switch Life	1,000,000 operations (using Hasco modified tester)
		Switch Life	1,000,000 operations (using Hasco modified tester)
		Switch Type	Micro-switches
		Tracking Mechanism Life	155 miles/250 km at average speed of 10 in/s
		Cable Length	6 ft/1.8 m
		PC98-99	Mechanically compliant
	Regulatory Approvals	Compliant	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick

Technical Specifications

Ultra160 SCSI Hard Drives	72 GB	Capacity	72,000 MB
	250023-B21	Height	1 in/25.4mm
		Width	3.5 in/88.9 mm
		Interface	Ultra160 SCSI
		Synchronous Transfer Rate (Maximum)	160 MB/s
		Seek Time (typical reads, including settling)	Single Track 0.6 ms Average 5.2 ms Full-Stroke 12 ms
			Rotational Speed 10,000 rpm
		Logical Blocks	142,264,000
		Operating Temperature	50° to 95°F/10° to 35°C
	36.4 GB	Capacity	36,400 MB
	191189-B21	Height	1.0 in/25.4 mm
		Width	3.5 in/88.9 mm
		Interface	Ultra160 SCSI
		Synchronous Transfer Rate (Maximum)	160 MB/s
		Seek Time (typical reads, including settling)	Single Track 0.6 ms Average 4.7 ms Full-Stroke 12 ms
			Rotational Speed 10,000 rpm
		Logical Blocks	71,132,000
		Operating Temperature	50° to 95°F/10° to 35°C
	18.2 GB	Capacity	18,209 MB
	191188-B21	Height	1 in/25.4 mm
		Width	3.5 in/88.9 mm
		Interface	Ultra160 SCSI
		Synchronous Transfer Rate (Maximum)	160 MB/s
		Seek Time (typical reads, including settling)	Single Track 0.8 ms Average 4.1 ms Full-Stroke 7.7 ms
			Rotational Speed 15,000 rpm
		Logical Blocks	35,566,000
		Operating Temperature	50° to 95°F/10° to 35°C
	18.2 GB	Capacity	18,209 MB
	159764-B21	Height	1 in/25.4 mm
		Width	3.5 in/88.9 mm
		Interface	Ultra160 SCSI
		Synchronous Transfer Rate (Maximum)	160 MB/s
		Seek Time (typical reads, including settling)	Single Track 0.6 ms Average 4.7 ms Full-Stroke 12 ms
			Rotational Speed 10,000 rpm
		Logical Blocks	35,566,000
		Operating Temperature	50° to 95°F/10° to 35°C

Technical Specifications

Ultra ATA Hard Drives	60 GB	Capacity	60,000 MB
	230253-B21	Height	1 in/25.4 mm
		Width	3.5 in/88.9 mm
		Interface	Ultra ATA/100
		Synchronous Transfer Rate (Maximum)	100 MB/s
		Seek Time (typical reads, including settling)	Single Track 1.2 ms (2.7 ms quiet seek) Average 8 ms (10.1 ms quiet seek) Full-Stroke 18.0 ms (21.1 ms quiet seek)
			Rotational Speed 7200 rpm
		Logical Blocks	117,231,408
		Operating Temperature	41° to 131°F/5° to 55°C
	40 GB	Capacity	40,000 MB
	201066-B21	Height	1 in/25.4 mm
		Width	3.5 in/88.9 mm
		Interface	Ultra ATA/100
		Synchronous Transfer Rate (Maximum)	100 MB/s
		Seek Time (typical reads, including settling)	Single Track 1.2 ms (2.7 ms quiet seek) Average 8 ms (10.1 ms quiet seek) Full-Stroke 18.0 ms (21.1 ms quiet seek)
			Rotational Speed 7200 rpm
		Logical Blocks	78,165,360
		Operating Temperature	41° to 131°F/5° to 55°C
	20 GB	Capacity	20,000 MB
	251974-B21	Height	1 in/25.4 mm
		Width	3.5 in/88.9 mm
		Interface	Ultra ATA/100
		Synchronous Transfer Rate (Maximum)	100 MB/s
		Seek Time (typical reads, including settling)	Single Track 1.2 ms (2.7 ms quiet seek) Average 8 ms (10.1 ms quiet seek) Full-Stroke 18.0 ms (21.1 ms quiet seek)
			Rotational Speed 7200 rpm
		Logical Blocks	39,102,336
		Operating Temperature	41° to 131°F/5° to 55°C

Technical Specifications

16X/10X/40X CD-RW Drive	Interface	ATAPI IDE	
	Media formats read	Any industry standard compact disc media	
	Media formats written	CD-R and CD-RW	
	Media capacity	650 MB	
	Write methods	Disc-at-once, track-at-once, session-at-once, fixed packet, and variable packet	
	Recording/playing time	More than 74 minutes	
	Data transfer rates	Sustained	CD-R write—2,400 Kbps (16X)
			CD-RW write (1-4X media) —1,500 Kbps (4X)
			CD-RW write (4-10X media) —1,500 Kbps (10X)
			CD-RW read—1,500 Kbps (10X)
			Digital audio extraction (minimum) —1,500 Kbps (10X)
		Variable	CD-ROM, CD-R read—1,500 to 6,000 Kbps (10X to 40X)
	Data transfer modes	ATA PIO mode 4—16.7 Mbps	
		ATA multi-word DMA mode 2—16.7 Mbps	
		ATA UltraDMA mode 0—16.7 Mbps (mandatory and default setting)	
		ATA UltraDMA mode 1—24 Mbps (optional); mode 2—33 Mbps (optional)	
	Media formats read	CD-audio, CD-ROM (modes 1 and 2), CD-ROM XA (mode 2, forms 1 and 2), single- or multi-session photo CD, CD-I, video CD, CD-text	
	Access times	Random	<120 ms typical
		Full stroke	<200 ms typical
	Rotational speed	17X—40X CAV	8,350 RPM, constant
		16X CLV	3,424—7,952 RPM
		10X CLV	2,140—4,970 RPM
		8X CLV	1,712—3,976 RPM
		4X CLV	856—1,988 RPM
	Start-up time	Single	<7 seconds typical
		Multi-session	<30 seconds typical
	Stop time	<4 seconds	
	Block size	Mode 1—2,048 / 2,352 bytes	
		Mode 2, Form 1—2,048 / 2,328 / 2,336 / 2,340 / 2,352 bytes	
		Mode 2, Form 2—2,328 / 2,336 / 2,340 / 2,352 bytes	
		CD-DA—2,352 / 2,368 bytes	
	Thickness	1.2 mm	
	Dimensions	Fits in a standard 5.25-inch drive bay	
	Disc diameter	120 mm or 80 mm	
	Track pitch	1.6 µm	
	Disc loading mechanism	Half-height, tray load	
	Operating conditions	Temperature	41° to 113° F (5° to 45° C) operating; -4° to 140° F
		Humidity	10% to 80%
	Mounting orientation	Horizontal or vertical	
	Weight	2.6 pounds (1.2 kg)	
	Approvals/environmental	UL 94 and 1950, CSA, CE, FDA, FCC	

Technical Specifications

16X/10X/40X CD-RW Drive (continued)	Operating conditions	Temperature	41° to 113° F (5° to 45° C) operating; -4° to 140° F
		Humidity	10% to 80%
	Mounting orientation	Horizontal or vertical	
	Weight	2.6 pounds (1.2 kg)	
	Approvals/ environmental	UL 94 and 1950, CSA, CE, FDA, FCC	
	Operating systems supported	Microsoft Windows 98, Microsoft Windows NT 4.0, Microsoft Windows 2000	
	Kit contents	16X CD-RW media, CD-RW high speed media, Roxio™ EasyCD Creator version 4.05, Dantz Retrospect Express version 5.5 for CD-RW, IDE and audio cable	

Technical Specifications

48X CD-ROM Drive	Disk	Applicable Disk	CD-ROM (Mode 1 and 2), CD-R/W, CD-R Photo CD (Single and Multi-session), Mixed Mode (Audio and Data combined), CDI Ready, CD-XA Ready, CD TEXT, CD EXTRA
		Capacity	540 MB (Mode 1, 12 cm) 650 MB (Mode 2, 12 cm)
		Rotational Speed	8750 maximum
		Diameter	4.7 in, 3.15 in/12 cm, 8 cm
		Center Hole	0.6 in/15 mm diameter
		Thickness	0.05 in/1.2 mm
		Track Pitch	1.6 μm
	Block Size	Mode 1	2,048 bytes
		Mode 2	2,340, 2,336 bytes
		CD-DA	2,352 bytes
		CD-XA	2,328 bytes
	Interface	IDE	
	Access Times (typical)	Random	< 100 ms
		Full-Stroke	< 150 ms
	Audio Output Level	Line-Out	0.7 VRMS
	Data Transfer Rate	Sustained	150 KB/s (1X, using audio disc)
		Variable	3,000 to 7,200 KB/s
Cache Buffer	128 KB minimum		
Start-up Time (typical)	< 7 s		
Stop Time	< 4 s		
Operating Conditions	Temperature	41° to 113°F/5° to 45°C	
	Humidity	10% to 80%	
Dimensions	(HxWxD, maximum)	1.7 x 5.9 x 8.19 in/4.29 x 15 x 20.8 cm	
	Weight	2.65 lbs/1.2 kg	

Technical Specifications

16X/40X DVD-ROM Drive with RAM Read	Bus	Ultra DMA 33	
	Data Transfer Rate (1 KB = 1024 bytes)	Sustained	DVD = 8.1 MB/s to 21.6 MB/s CD-ROM = 2.55 KB/s to- 6.00 KB/s
	Disk Rotation Technology		DVD: CAV -Constant Angular Velocity CD: CAV - Constant Angular Velocity
	Access Time (ms)	Random	DVD = <100 ms; CDROM = < 80 ms
		Full Stroke Seek	DVD = <240 ms; CDROM = <160 ms
	Cache Buffer Standard / Max	512 KB	
	ATAPI Interface	ATAPI	
	Disk Formats Read	DVD-ROM	Yes
		DVD-Video	Yes
		DVD-R	Yes
		DVD-RW	Yes
		DVD-RAM	Yes
		Photo-CD/Multi-session	Yes
		CD-ROM	Yes
		CD TEXT	Yes
		Audio CD	Yes
		CD-I	Yes
		CD-RW	Yes
		CD-R	Yes
		CD-DA	Yes
		Video CD	Yes
		CD EXTRA	Yes
		CD-ROM XA	Yes
		MPEG	Yes
		MPC Level 2	Yes
	Disk Formats Written	None	
Disk	Capacity	CD = 650 MB	
		DVD: 4.7 GB, 8.5 GB, 9.4 GB	
	Block Size	Mode 0 2352 (bytes)	
		Mode 1 2352, 2340, 2336, 2048 (bytes)	
		Mode 2 2352, 2340, 2336, 2048 (bytes)	
		DVD – 2048 (bytes)	
	Diameter	12 cm, 8 cm	
	Thickness	1.2 mm (CD-ROM)	
1.2 mm (DVD)			

Technical Specifications

16X/40 DVD-ROM Drive with RAM Read (continued)	Audio Output Level	Line Out	0.7± 0.1 Vrms
		Headphones	0.45 ± 0.2 Vrms
	Operating Conditions	Temperature	41° to 113°F/5° to 45°C
		Humidity	5% to 85% relative humidity
	Dimensions (HxWxD)	Inches	1.67 x 5.83 x 8.18
		Centimeters	4.23 x 14.8 x 20.75
	Weight	Pounds	2.22
		Kilograms	1
	Agency Approvals / Environmentals	UL, CSA, TUV, FDA, FCC, CE, EMI	
	OS Support	Windows 98/98SE, Windows ME, Windows 2000, and Windows NT 4.0 (for data applications only)	
	MPEG Video playback compatibility	Please refer to the platform for support	
	RPC2 (Regional Protection Control)	Yes	
	Minimum CPU Supported	Pentium II 400 MHz or Celeron 466 MHz	
	Mounting Orientation	Operates in horizontal or vertical position.	
Kit Contents	DVD-ROM Drive, MPEG playback software, ReadDVD™ software, IDE Cable, audio cable, installation instructions, and warranty card.		

Technical Specifications

Compaq Premier•Sound featuring AC'97 Audio	Type	Embedded AC'97 2.1 Codec	
	Sound Quality	16-Bit Stereo Full-Duplex (CD Quality)	
	Sampling	Variable 7 kHz to 48 kHz	
	Audio Compression/Decompression	ESPCM and ADPCM compression	
	Full Scale Input Voltage (RMS)	Microphone Input	100 mVolts
		Line Input	2.2 Volts
	Full Scale Output Voltage (RMS)	Line Output	1.4 Volts
	Impedance (nominal)	Line Output	800 ohms (typical)
		Line Input	10 Kohms (typical)
	Playback (PC-D-A)	Dynamic Range	–91 dB (typical)
		Total Harmonic Distortion + Noise	–69 dB (typical)
		Frequency Response (–3 dB)	20 Hz to 20 kHz
	Line Output Crosstalk (10 kHz)	–74 dB	
	Headphone Maximum Output (1 kHz)	60 mWrms into 32 ohms (THD+N < 1%)	
	Internal Power Amplifier Rating	Nominal: 1.5 Watts RMS @ 8 ohms Maximum: 5 Watts RMS @ 8 ohms	
	Speaker	Frequency Response	200 Hz to 15 kHz
		Equalizer	5 stages of fixed equalization
		Design	High-performance, infinite baffle loudspeaker
	Connectors	Line-in, line-out, microphone-in, headphone-out	
	Operating System Driver Support	Windows NT 4.0, Windows 98, Windows 2000	

Technical Specifications

Compaq Integrated Intel® PRO/100 Manufacturer VM Network Connection		Intel®
Interface	Intel SingleDriver™ technology (10/100-Mbps support)	
Connectors	RJ-45	
Expansion bus architecture	PCI 2.2	
Configuration	Network transfer rate	10Base-T (Half-Duplex) 10 Mb/s 10Base-T (Full-Duplex) 20 Mb/s 100Base-TX (Half-Duplex) 100 Mb/s 100Base-TX (Full-Duplex) 200 Mb/s
	Data Interface	PCI, 32 bit bus mastering
	I/O Address	Integrated connectivity with Intel I/O Controller Hub (ICH2)-based platforms
Standards compliance	IEEE VLAN Support (802.1A) IEEE 802.2 IEEE 802.3 & IEEE 802.3u (100-Mb/s Ethernet) IEEE Intel Priority Packet (801.1p)	
OS driver support	Microsoft Windows NT 3.51 and 4.0 Microsoft Windows 95, 98, and Microsoft Windows 2000, Microsoft Windows Me Novell Netware 3.11, 3.12 & 4.1x, 5 Server Sun Solaris™ SCO UnixWare OpenDesktop and OpenServer	
Software support	Instrumentation support for CIM/WBEM SNMP, DMI, PXE 2.0, Intel PROSet utility for installation and configuration, Alert on LAN Software Developer Kit and same code	
Remote wakeup	PME through PCI 2.2, no cable required	
Boot PROM support	Yes, Intel PRO/100 Boot Agent (PXE 2.0, RPL)	
Special features	Digital adaptive equalization control, link status interrupt capability, boundary scan support, 3-port LED support (speed, link, activity), 10BASE-T auto polarity correction, diagnostic loopback mode, 1:1 transmit transformer ratio support, automatic detection of unplugged mode, remote monitoring (alerting)	
Proactive Alert technology	Alert on LAN (transmit functionality only)—requires Management Console software such as HP OpenView and Altiris, alert utilities for the management console, proxy client software, client configuration software	
F12 BIOS support	Yes	
Environmental requirements	Operating temperature	32° to 131° F (0° to 55° C)
	Operating humidity (non-condensing)	85% at 131° F (55° C)
	Altitude	10,000 feet (3,048 meters)
	Non-operating temperature	-40° to 158° F (-40° to +70° C)

Altitude	5,000 feet (15,240 meters)
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Technical Specifications

Compaq Integrated Intel® PRO/100 Power VM Network Connection <i>(continued)</i>		300 mW typical in active transmit mode; reduced power in unplugged mode (<50 mW); 3.3 V device
Power management		ACPI 1.0
Flash package		48-pin Shrink Small Outline Package (SSOP)
Network management		PCI 2.2
LED indicators		Three-port support (speed, link, and activity)
Standards compliance		IEEE 802.2, IEEE 802.3 and IEEE 802.3u, (100-Mbps ethernet), SCO UnixWare OpenDesktop and OpenServer, PC'99

Technical Specifications

Matrox Millennium G550 AGP Graphics Controller	Form factor	Low profile (LP) board with ATX bracket attached (kit also includes a Small Form Factor (SFF) bracket)
	Bus type	AGP 4X, AGP 2X, and AGP 1X
	Standard memory	32-MB, high-speed DDR
	DAC speed	360-MHz RAMDAC; secondary 230-MHz RAMDAC
	Data path	64-bit DDR external bus to frame buffer memory/256-bit internal
	Internal bus width	256-bit DualBus
	Memory interface	64-bit DDR Memory
	Frame buffer	32 MB
	Operating systems supported	Microsoft Windows XP Professional and Home Edition, Microsoft Windows 2000, Microsoft Me, Microsoft Windows 95/98, Microsoft Windows NT 4.0, Linux
	Two integrated RAMDACs	Yes
	Optional software bundles (not included)	Matrox Virtual Presenter for Microsoft PowerPoint; Digimask™ System, HeadFone™ by LipSinc; The Matrox Software DVD Player; eDualHead browser enhancements (PageWrap, PageLog, and PageJump); Matrox PowerDesk
	3-D engine acceleration	Matrox HeadCasting* engine, two dual-textured 3-D pixels/clock for fast 3-D game play, dual pixel pipelines with dual texturing units per pipeline, floating point 3-D setup engine with dynamically re-allocatable resources; Microsoft DirectX Environment-Mapped Bump Mapping; Vibrant Color Quality rendering; bilinear, 8-sample-per-pixel trilinear, and anisotropic filtering; Microsoft DirectX and OpenGL® alpha blending modes; Z-buffer support
3-D features	Single cycle multi-texturing	Yes
	Environment-mapped bump mapping	Yes
	Internal rendering	32-bit
	Source textures	Up to 32-bit
	Maximum texture size	2048 x 2048
	32-bit color output	Yes
	32-bit independent Z-buffer	Yes
	Stencil buffering	Yes
	AGP texturing	Yes
	Trilinear filtering	Yes
	Microsoft DirectX support	Yes
	OpenGL support	Yes, through Matrox
	DualHead 3-D display features	HeadCasting, Microsoft DirectX compliant, dual texturing units per pixel pipeline, two pixel pipelines, single-cycle multi-texturing, environment-mapped bump mapping, 32-bit internal rendering precision, up to 32-bit source textures, 32-bit color output, bilinear, trilinear and anisotropic 3-D filtering, 32-bit independent Z-buffer, OpenGL support
	Other 3-D features	Alpha blending, fogging, specular highlighting, environment mapping, stencil buffering, triple buffering, AGP texturing
	Other	Texture mapping support; true color RGB, flat, and Gouraud shading; Direct3-D support; anisotropic filter; perspective-correct texture mapping; specular highlighting (any color); hardware dithering (including dithering of LUT textures); sort-dependent antialiasing; vertex and table fogging; dual texture mapping; Plug-and-Play; 0.18-micron technology (lower heat/power consumption); high-quality DVD playback with DVDMax; color space conversion; QuickDraw supported DCI and Microsoft DirectX and OpenGL blend modes; Microsoft DirectDraw support; support for picture-in-picture and multiple video windows; Unique Motion Video Rendering support
	Optional software bundles (not included)	Matrox Virtual Presenter for Microsoft PowerPoint; Digimask™ System, HeadFone™ by LipSinc; The Matrox Software DVD Player; eDualHead browser enhancements (PageWrap, PageLog, and PageJump); Matrox PowerDesk

Technical Specifications

Matrox Millennium G550 AGP Graphics Controller *(continued)*

DualHead configurations

VGA monitor/analog flat panel + VGA monitor/analog flat panel
VGA monitor/analog flat panel + television
Digital flat panel + VGA monitor/analog flat panel
Digital flat panel + television

DualHead 2-D display features

DualHead Multi-Display support; DualHead Browser Enhancement Suite, DualHead DVDMax, DualHead Zoom, DualHead Clone, DVDMax, DualHead MultiDesk, DualHead TV-out, DualHead Snapshot, Dual DVI support, ; True Multi-Display support with Microsoft Windows 2000

DualHead display technology chip specifications

Multiple independent displays with a single AGP card: analog flat panel (RGB monitor)/analog flat panel (RGB monitor); digital flat panel/digital flat panel

Note: System recommendations for HeadCasting and DVD—450-MHz or higher computer; 128 MB RAM; 56-K or higher modem with minimum 40-K connection, microphone, and DVD-ROM; Internet Explorer 5.5 or higher, Microsoft PowerPoint 2000 or Microsoft PowerPoint XP (for Matrox Virtual Presenter)

Resolutions Supported

Maximum Colors Supported

Refresh Rates

640 x 480	16 million	200 Hz vertical, 130 kHz horizontal
800 x 600	16 million	200 Hz vertical, 130 kHz horizontal
1024 x 768	16 million	160 Hz vertical, 130 kHz horizontal
1152 x 864	16 million	140 Hz vertical, 130 kHz horizontal
1280 x 1024	16 million	120 Hz vertical, 130 kHz horizontal
1600 x 1200	16 million	100 Hz vertical, 130 kHz horizontal
1800 x 1440	16 million	90 Hz vertical, 120kHz horizontal
1920 x 1440	16 million	85 Hz vertical, 115 kHz horizontal
2048 x 1536	16 million	85 Hz vertical, 110 kHz horizontal

Secondary Resolutions Supported

Maximum Color Depths (bpp)

Refresh Rates

640 x 480	16 million	200 Hz vertical, 130 kHz horizontal
800 x 600	16 million	200 Hz vertical, 130 kHz horizontal
1024 x 768	16 million	160 Hz vertical, 130 kHz horizontal
1152 x 864	16 million	140 Hz vertical, 130 kHz horizontal
1280 x 1024	16 million	120 Hz vertical, 130 kHz horizontal
1600 x 1200	16 million	100 Hz vertical, 130 kHz horizontal

Technical Specifications

Matrox G200 Quad Multi-Monitor Series (MMS) Graphics Controller	Dimensions (HxW)	4.5x8 in/11.43x20.32 cm		
	Refresh Rate (per display)			
	Aspect Ratio	Resolution	Vertical	Horizontal
	4:3/5:4	640 x 480	60 to 200 Hz	31 to 102 kHz
		800 x 600	60 to 200 Hz	38 to 114 kHz
		1024 x 768	60 to 140 Hz	48 to 113 kHz
		1152 x 864	60 to 120 Hz	54 to 110 kHz
		1280 x 1024	60 to 100 Hz	64 to 107 kHz
		1600 x 1200	60 to 90 Hz	75 to 113 kHz
		1800 x 1440	60 to 70 Hz	89 to 104 kHz
	16:9/16:10	856 x 480	60 to 200 Hz	30 to 108 kHz
		1280 x 720	60 to 100 Hz	44 to 76 kHz
		1600 x 1024	60 to 100 Hz	64 to 108 kHz
		1920 x 1080	60 to 80 Hz	70 to 94 kHz
		1920 x 1200	60 to 76 Hz	75 to 95 kHz
	With DVI digital flat panel displays, the maximum display resolution is 1280 x 1024.			
	Maximum refresh rates may not be attainable at the highest display resolutions with 24 or 32-bit color palettes.			
	Interface	PCI		
	Standard Memory	32-MB SGRAM (8 MB per port)		
	DAC Speed	250 MHz		
	Data Path	128-bit Internal/64-bit External		
	Color Space Conversion	Yes		
	Scaling	Yes		
	Quick Draw Support	Yes		
	DCI & DirectX Video Playback	Yes		
	Direct 3D Support	Yes		
	Engine Acceleration	3 ROP bitBLT, Line Draw, Text, Color Expansion, Basic Video Color Conversion and Scaling, Triangle Setup Engine		
Output	Two output ports, which require 2 adapter cables to connect analog or digital output displays			
	Analog Display Support	2 RGB cables support two DB-15 analog displays per cable		
	DVI (Digital Visual Interface) Display Support	DVI cable option kit provides two DVI cables for connecting two DVI compliant displays per cable		
	Display options supported	Four analog displays via two RGB cables Four DVI displays via two DVI cables Two analog displays via one RGB cable and two DVI displays via one DVI cable		
Other	PCI bus-mastering, texture mapping support, flat and Gouraud shading, Anisotropic Filter, perspective texture, specular highlighting, dithering, full scene anti-aliasing, Vertex fog			
OS support	Windows 2000 and Windows NT 4.0			

Technical Specifications

NVIDIA® Quadro2 EX Graphics Controller	Dimensions (LxHxW)	Approximately 6.5 x 3.8 x 0.6 inches (16.5 x 9.7 x 1.5 cm)		
	Resolution	Maximum Colors Supported	Maximum Refresh Rate	Memory Dedicated to Texture Support
	640 x 480	16.7 M	120 Hz	28.4 MB
	800 x 600	16.7 M	120 Hz	26.4 MB
	1024 x 768	16.7 M	120 Hz	22.8 MB
	1152 x 864	16.7 M	120 Hz	20.3 MB
	1280 x 1024	16.7 M	100 Hz	16.6 MB
	1600 x 1000	16.7 M	85 Hz	10.5 MB
	1600 x 1200	64 K	100 Hz	20.8 MB
	1600 x 1200	16.7 M	85 Hz	9.5 MB
	1920 x 1080	64 K	85 Hz	19.9 MB
	1920 x 1080	16.7 M	75 Hz	7.7 MB
	1920 x 1200	64 K	85 Hz	18.5 MB
	1920 x 1200	16.7 M	70Hz	5 MB
3D/2D controller		Integrated Quadro2 EX LP2-D/3-D 128-bit graphics processor unit (GPU)		
VGA controller		Integrated into the Quadro2 EX LPGPU		
Bus type		AGP 2X, 4X graphics bus		
RAMDAC		350 MHz		
Memory type		183 MHz SDR 2Mx32		
Memory amount		32 MB		
Memory speed		166 MHz		
Controller clock speed		175 MHz		
Color planes		32-bit color buffer		
Overlay planes		One 16-bit Video overlay plane, software emulation for OpenGL overlay planes		
Stencil planes		8-bit stencil buffer		
Alpha planes		8-bit alpha buffer		
Z-buffer		24-bit Z buffer		
Total bits/pixel		64-bits		
Maximum vertical refresh rate		240 Hz		
Maximum pixel clock		350 MHz		
Multi-display support		No		
Operating systems		Microsoft® Windows® 2000 and Windows NT 4.0, both available from Compaq		

Note: All drivers and enhanced software, including ELSA POWERdraft, can be found on the Compaq web site at: www.compaq.com/support/files/workstations/us/index.html